RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/561,484
Source: IFW9
Date Processed by STIC: 12/29/2005

ENTERED

IFW P

RAW SEQUENCE LISTING DATE: 12/29/2005
PATENT APPLICATION: **US/10/561,484** TIME: 15:02:22

Input Set : **A:\10356-WO.ST25.txt**
Output Set: **N:\CRF4\12292005\J561484.raw**

<110> APPLICANT: Patkar, Shamkant
Higgins, Don
Fatum, Tine
Vind, Jesper
Madkor, Sabry
Sorensen, Thomas
<120> TITLE OF INVENTION: Lipolytic enzyme variants
<130> FILE REFERENCE: 10470.204-US
C--> **<140> CURRENT APPLICATION NUMBER: US/10/561,484**
C--> **<141> CURRENT FILING DATE: 2005-12-20**
<160> NUMBER OF SEQ ID NOS: 14
<170> SOFTWARE: PatentIn version 3.3
<210> SEQ ID NO: 1
<211> LENGTH: 269
<212> TYPE: PRT
<213> ORGANISM: Thermomyces lanuginosus
<400> SEQUENCE: 1

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1               5                  10                  15
Ser Ala Ala Ala Tyr Cys Gly Lys Asn Asn Asp Ala Pro Ala Gly Thr
            20                  25                  30
Asn Ile Thr Cys Thr Gly Asn Ala Cys Pro Glu Val Glu Lys Ala Asp
        35                  40                  45
Ala Thr Phe Leu Tyr Ser Phe Glu Asp Ser Gly Val Gly Asp Val Thr
    50                  55                  60
Gly Phe Leu Ala Leu Asp Asn Thr Asn Lys Leu Ile Val Leu Ser Phe
65                  70                  75                  80
Arg Gly Ser Arg Ser Ile Glu Asn Trp Ile Gly Asn Leu Asn Phe Asp
                85                  90                  95
Leu Lys Glu Ile Asn Asp Ile Cys Ser Gly Cys Arg Gly His Asp Gly
            100                 105                 110
Phe Thr Ser Ser Trp Arg Ser Val Ala Asp Thr Leu Arg Gln Lys Val
        115                 120                 125
Glu Asp Ala Val Arg Glu His Pro Asp Tyr Arg Val Val Phe Thr Gly
    130                 135                 140
His Ser Leu Gly Gly Ala Leu Ala Thr Val Ala Gly Ala Asp Leu Arg
145                 150                 155                 160
Gly Asn Gly Tyr Asp Ile Asp Val Phe Ser Tyr Gly Ala Pro Arg Val
                165                 170                 175
Gly Asn Arg Ala Phe Ala Glu Phe Leu Thr Val Gln Thr Gly Gly Thr
            180                 185                 190
Leu Tyr Arg Ile Thr His Thr Asn Asp Ile Val Pro Arg Leu Pro Pro
        195                 200                 205
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Input Set : A:\10356-WO.ST25.txt
Output Set: N:\CRF4\12292005\J561484.raw

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77 Arg Glu Phe Gly Tyr Ser His Ser Ser Pro Glu Tyr Trp Ile Lys Ser
78     210                 215                 220
81 Gly Thr Leu Val Pro Val Thr Arg Asn Asp Ile Val Lys Ile Glu Gly
82 225                 230                 235                 240
85 Ile Asp Ala Thr Gly Gly Asn Asn Gln Pro Asn Ile Pro Asp Ile Pro
86                 245                 250                 255
89 Ala His Leu Trp Tyr Phe Gly Leu Ile Gly Thr Cys Leu
90             260                 265
93 <210> SEQ ID NO: 2
94 <211> LENGTH: 286
95 <212> TYPE: PRT
96 <213> ORGANISM: Fusarium oxysporum
98 <400> SEQUENCE: 2
100 Ala Val Gly Val Thr Thr Thr Asp Phe Ser Asn Phe Lys Phe Tyr Ile
101 1               5                   10                  15
104 Gln His Gly Ala Ala Ala Tyr Cys Asn Ser Glu Ala Ala Ala Gly Ser
105             20                  25                  30
108 Lys Ile Thr Cys Ser Asn Asn Gly Cys Pro Thr Val Gln Gly Asn Gly
109         35                  40                  45
112 Ala Thr Ile Val Thr Ser Phe Val Gly Ser Lys Thr Gly Ile Gly Gly
113     50                  55                  60
116 Tyr Val Ala Thr Asp Ser Ala Arg Lys Glu Ile Val Val Ser Phe Arg
117 65                  70                  75                  80
120 Gly Ser Ile Asn Ile Arg Asn Trp Leu Thr Asn Leu Asp Phe Gly Gln
121                 85                  90                  95
124 Glu Asp Cys Ser Leu Val Ser Gly Cys Gly Val His Ser Gly Phe Gln
125             100                 105                 110
128 Arg Ala Trp Asn Glu Ile Ser Ser Gln Ala Thr Ala Ala Val Ala Ser
129         115                 120                 125
132 Ala Arg Lys Ala Asn Pro Ser Phe Asn Val Ile Ser Thr Gly His Ser
133     130                 135                 140
136 Leu Gly Gly Ala Val Ala Val Leu Ala Ala Ala Asn Leu Arg Val Gly
137 145                 150                 155                 160
140 Gly Thr Pro Val Asp Ile Tyr Thr Tyr Gly Ser Pro Arg Val Gly Asn
141                 165                 170                 175
144 Ala Gln Leu Ser Ala Phe Val Ser Asn Gln Ala Gly Gly Glu Tyr Arg
145             180                 185                 190
148 Val Thr His Ala Asp Asp Pro Val Pro Arg Leu Pro Pro Leu Ile Phe
149         195                 200                 205
152 Gly Tyr Arg His Thr Thr Pro Glu Phe Trp Leu Ser Gly Gly Gly Gly
153     210                 215                 220
156 Asp Lys Val Asp Tyr Thr Ile Ser Asp Val Lys Val Cys Glu Gly Ala
157 225                 230                 235                 240
160 Ala Asn Leu Gly Cys Asn Gly Gly Thr Leu Gly Leu Asp Ile Ala Ala
161                 245                 250                 255
164 His Leu His Tyr Phe Gln Ala Thr Asp Ala Cys Asn Ala Gly Gly Phe
165             260                 265                 270
168 Ser Trp Arg Arg Tyr Arg Ser Ala Glu Ser Val Asp Lys Arg
169         275                 280                 285
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Input Set : **A:\10356-WO.ST25.txt**
Output Set: **N:\CRF4\12292005\J561484.raw**

172 <210> SEQ ID NO: 3
173 <211> LENGTH: 265
174 <212> TYPE: PRT
175 <213> ORGANISM: Absidia reflexa
177 <400> SEQUENCE: 3
179 Ser Ser Ser Ser Thr Gln Asp Tyr Arg Ile Ala Ser Glu Ala Glu Ile
180 1 5 10 15
183 Lys Ala His Thr Phe Tyr Thr Ala Leu Ser Ala Asn Ala Tyr Cys Arg
184 20 25 30
187 Thr Val Ile Pro Gly Gly Arg Trp Ser Cys Pro His Cys Gly Val Ala
188 35 40 45
191 Ser Asn Leu Gln Ile Thr Lys Thr Phe Ser Thr Leu Ile Thr Asp Thr
192 50 55 60
195 Asn Val Leu Val Ala Val Gly Glu Lys Glu Lys Thr Ile Tyr Val Val
196 65 70 75 80
199 Phe Arg Gly Thr Ser Ser Ile Arg Asn Ala Ile Ala Asp Ile Val Phe
200 85 90 95
203 Val Pro Val Asn Tyr Pro Pro Val Asn Gly Ala Lys Val His Lys Gly
204 100 105 110
207 Phe Leu Asp Ser Tyr Asn Glu Val Gln Asp Lys Leu Val Ala Glu Val
208 115 120 125
211 Lys Ala Gln Leu Asp Arg His Pro Gly Tyr Lys Ile Val Val Thr Gly
212 130 135 140
215 His Ser Leu Gly Gly Ala Thr Ala Val Leu Ser Ala Leu Asp Leu Tyr
216 145 150 155 160
219 His His Gly His Ala Asn Ile Glu Ile Tyr Thr Gln Gly Gln Pro Arg
220 165 170 175
223 Ile Gly Thr Pro Ala Phe Ala Asn Tyr Val Ile Gly Thr Lys Ile Pro
224 180 185 190
227 Tyr Gln Arg Leu Val His Glu Arg Asp Ile Val Pro His Leu Pro Pro
228 195 200 205
231 Gly Ala Phe Gly Phe Leu His Ala Gly Glu Glu Phe Trp Ile Met Lys
232 210 215 220
235 Asp Ser Ser Leu Arg Val Cys Pro Asn Gly Ile Glu Thr Asp Asn Cys
236 225 230 235 240
239 Ser Asn Ser Ile Val Pro Phe Thr Ser Val Ile Asp His Leu Ser Tyr
240 245 250 255
243 Leu Asp Met Asn Thr Gly Leu Cys Leu
244 260 265
247 <210> SEQ ID NO: 4
248 <211> LENGTH: 264
249 <212> TYPE: PRT
250 <213> ORGANISM: Absidia corymbifera
252 <400> SEQUENCE: 4
254 Ser Ser Ser Thr Gln Asp Tyr Arg Ile Ala Ser Glu Ala Glu Ile Lys
255 1 5 10 15
258 Ala His Thr Phe Tyr Thr Ala Leu Ser Ala Asn Ala Tyr Cys Arg Thr
259 20 25 30
262 Val Ile Pro Gly Gly Gln Trp Ser Cys Pro His Cys Asp Val Ala Pro

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Input Set : A:\10356-WO.ST25.txt
Output Set: N:\CRF4\12292005\J561484.raw

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263         35                  40                  45
266 Asn Leu Asn Ile Thr Lys Thr Phe Thr Thr Leu Ile Thr Asp Thr Asn
267     50                  55                  60
270 Val Leu Val Ala Val Gly Glu Asn Glu Lys Thr Ile Tyr Val Val Phe
271 65                  70                  75                  80
274 Arg Gly Thr Ser Ser Ile Arg Asn Ala Ile Ala Asp Ile Val Phe Val
275                 85                  90                  95
278 Pro Val Asn Tyr Pro Pro Val Asn Gly Ala Lys Val His Lys Gly Phe
279             100                 105                 110
282 Leu Asp Ser Tyr Asn Glu Val Gln Asp Lys Leu Val Ala Glu Val Lys
283         115                 120                 125
286 Ala Gln Leu Asp Arg His Pro Gly Tyr Lys Ile Val Val Thr Gly His
287     130                 135                 140
290 Ser Leu Gly Gly Ala Thr Ala Val Leu Ser Ala Leu Asp Leu Tyr His
291 145                 150                 155                 160
294 His Gly His Asp Asn Ile Glu Ile Tyr Thr Gln Gly Gln Pro Arg Ile
295                 165                 170                 175
298 Gly Thr Pro Glu Phe Ala Asn Tyr Val Ile Gly Thr Lys Ile Pro Tyr
299             180                 185                 190
302 Gln Arg Leu Val Asn Glu Arg Asp Ile Val Pro His Leu Pro Pro Gly
303         195                 200                 205
306 Ala Phe Gly Phe Leu His Ala Gly Glu Glu Phe Trp Ile Met Lys Asp
307     210                 215                 220
310 Ser Ser Leu Arg Val Cys Pro Asn Gly Ile Glu Thr Asp Asn Cys Ser
311 225                 230                 235                 240
314 Asn Ser Ile Val Pro Phe Thr Ser Val Ile Asp His Leu Ser Tyr Leu
315                 245                 250                 255
318 Asp Met Asn Thr Gly Leu Cys Leu
319             260
322 <210> SEQ ID NO: 5
323 <211> LENGTH: 269
324 <212> TYPE: PRT
325 <213> ORGANISM: Rhizomucor miehei
327 <400> SEQUENCE: 5
329 Ser Ile Asp Gly Gly Ile Arg Ala Ala Thr Ser Gln Glu Ile Asn Glu
330 1               5                   10                  15
333 Leu Thr Tyr Tyr Thr Thr Leu Ser Ala Asn Ser Tyr Cys Arg Thr Val
334             20                  25                  30
337 Ile Pro Gly Ala Thr Trp Asp Cys Ile His Cys Asp Ala Thr Glu Asp
338         35                  40                  45
341 Leu Lys Ile Ile Lys Thr Trp Ser Thr Leu Ile Tyr Asp Thr Asn Ala
342     50                  55                  60
345 Met Val Ala Arg Gly Asp Ser Glu Lys Thr Ile Tyr Ile Val Phe Arg
346 65                  70                  75                  80
349 Gly Ser Ser Ser Ile Arg Asn Trp Ile Ala Asp Leu Thr Phe Val Pro
350                 85                  90                  95
353 Val Ser Tyr Pro Pro Val Ser Gly Thr Lys Val His Lys Gly Phe Leu
354             100                 105                 110
357 Asp Ser Tyr Gly Glu Val Gln Asn Glu Leu Val Ala Thr Val Leu Asp
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PATENT APPLICATION: US/10/561,484 TIME: 15:02:22

Input Set : A:\10356-WO.ST25.txt
Output Set: N:\CRF4\12292005\J561484.raw

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358         115                 120                 125
361 Gln Phe Lys Gln Tyr Pro Ser Tyr Lys Val Ala Val Thr Gly His Ser
362     130                 135                 140
365 Leu Gly Gly Ala Thr Ala Leu Leu Cys Ala Leu Asp Leu Tyr Gln Arg
366 145                 150                 155                 160
369 Glu Glu Gly Leu Ser Ser Ser Asn Leu Phe Leu Tyr Thr Gln Gly Gln
370                 165                 170                 175
373 Pro Arg Val Gly Asp Pro Ala Phe Ala Asn Tyr Val Val Ser Thr Gly
374             180                 185                 190
377 Ile Pro Tyr Arg Arg Thr Val Asn Glu Arg Asp Ile Val Pro His Leu
378         195                 200                 205
381 Pro Pro Ala Ala Phe Gly Phe Leu His Ala Gly Glu Glu Tyr Trp Ile
382     210                 215                 220
385 Thr Asp Asn Ser Pro Glu Thr Val Gln Val Cys Thr Ser Asp Leu Glu
386 225                 230                 235                 240
389 Thr Ser Asp Cys Ser Asn Ser Ile Val Pro Phe Thr Ser Val Leu Asp
390                 245                 250                 255
393 His Leu Ser Tyr Phe Gly Ile Asn Thr Gly Leu Cys Thr
394             260                 265
397 <210> SEQ ID NO: 6
398 <211> LENGTH: 271
399 <212> TYPE: PRT
400 <213> ORGANISM: Rhizopus oryzae
402 <400> SEQUENCE: 6
404 Ser Ala Ser Asp Gly Gly Lys Val Val Ala Ala Thr Thr Ala Gln Ile
405 1               5                   10                  15
408 Gln Glu Phe Thr Lys Tyr Ala Gly Ile Ala Ala Thr Ala Tyr Cys Arg
409             20                  25                  30
412 Ser Val Val Pro Gly Asn Lys Trp Asp Cys Val Gln Cys Gln Lys Trp
413         35                  40                  45
416 Val Pro Asp Gly Lys Ile Ile Thr Thr Phe Thr Ser Leu Leu Ser Asp
417     50                  55                  60
420 Thr Asn Gly Tyr Val Leu Arg Ser Asp Lys Gln Lys Thr Ile Tyr Leu
421 65                  70                  75                  80
424 Val Phe Arg Gly Thr Asn Ser Phe Arg Ser Ala Ile Thr Asp Ile Val
425                 85                  90                  95
428 Phe Asn Phe Ser Asp Tyr Lys Pro Val Lys Gly Ala Lys Val His Ala
429             100                 105                 110
432 Gly Phe Leu Ser Ser Tyr Glu Gln Val Val Asn Asp Tyr Phe Pro Val
433         115                 120                 125
436 Val Gln Glu Gln Leu Thr Ala His Pro Thr Tyr Lys Val Ile Val Thr
437     130                 135                 140
440 Gly His Ser Leu Gly Gly Ala Gln Ala Leu Leu Ala Gly Met Asp Leu
441 145                 150                 155                 160
444 Tyr Gln Arg Glu Pro Arg Leu Ser Pro Lys Asn Leu Ser Ile Phe Thr
445                 165                 170                 175
448 Val Gly Gly Pro Arg Val Gly Asn Pro Thr Phe Ala Tyr Tyr Val Glu
449             180                 185                 190
452 Ser Thr Gly Ile Pro Phe Gln Arg Thr Val His Lys Arg Asp Ile Val
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VERIFICATION SUMMARY DATE: 12/29/2005
PATENT APPLICATION: **US/10/561,484** TIME: 15:02:23

Input Set : **A:\10356-WO.ST25.txt**
Output Set: **N:\CRF4\12292005\J561484.raw**

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L:14 M:271 C: Current Filing Date differs, Replaced Current Filing Date